

Date: Thursday, 3/23/2006 3:44:37 PM
 User: Kim Johnston

Process Sheet

| | | | | |
|-----------------------|---|---------------------------|------------------|-------------|
| Customer | CU-DAR001 | Dart Helicopters Services | Drawing Name | WEARPLATE |
| Job Number | 26350 | | Part Number | D25771 |
| Estimate Number | 10288 | | Drawing Number | D2577 REV E |
| P.O. Number | N/A | | Project Number | N/A |
| This Issue | 3/23/2006 | S.O. No. N/A | Drawing Revision | E |
| Prsht Rev. | NC | | Material | N/A |
| First Issue | N/A | Type PURCHASED PARTS | Due Date | 4/15/2006 |
| Previous Run | 25137 | | Qty: | 50 |
| Written By | See Comment Below. | | | |
| Checked & Approved By | JF 06.03.24 | | | |
| Comment | Est: E 02.09.24 Re-format; Incorporated D2577-101-11KJ/ RF | | | |

Additional Product

Job Number:



| Seq. #: | Machine Or Operation: | Description : |
|---------|--|-------------------------------|
| 1.0 | PG | PURCHASING |
| | | |
| | Comment: PURCHASING Issue P/O: 00000892 | |
| | Email or Ship DXF file to vendor | |
| | Laser Cut per Dwg D2577 flat pattern D2577-101 | |
| | Material release note required | |
| 2.0 | D25771F | Wearplate Fwd |
| | | |
| | Comment: Qty.: 1.0000 Each(s)/Unit Total : 50.0000 Each(s) WEAR PLATE FWD | |
| 3.0 | PACKAGING 1 | PACKAGING RESOURCE #1 |
| | | |
| | Comment: PACKAGING RESOURCE #1 Receive & Inspect For Transit Damage | |
| | Ensure material release note is attached | |
| 4.0 | QC6 | DIMENSIONAL CHECK |
| | | |
| | Comment: DIMENSIONAL CHECK Inspect dimensions per template D2577-101T | |
| 5.0 | SMALL FAB 1 | SMALL & MEDIUM FAB RESOURCE 1 |
| | | |
| | Comment: SMALL & MEDIUM FAB RESOURCE 1 Deburr | |

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Thursday, 3/23/2006 3:44:37 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WEARPLATE

Job Number: 26350

Part Number: D25771

Job Number:



Seq. #: Machine Or Operation:

Description :

6.0 BRAKE NC NC BRAKE



Comment: NC BRAKE

1-Form on brake as per Dwg D2577 using DT8155 and DT8179

2-Form joggle as per Dwg D2577 using DT8157

3-Identify as D2577-1

FF 06.04.20

50

FF 06.04.20

50

7.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

8.0 LARGE FAB 1 LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Weld hard surface using DT8308A & DT8308B as per Dwg D2577

Qty Description Batch

A/R 7560 Hardcoat Rod

M100452

H.M 06-04-27

50

9.0 QC9 VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

11/05/02 (50)

10.0 POWDER COATING POWDER COATING



Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

DL 06/05/03 50

11.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

FC 06 05 03

50

12.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: FP 19

DC 06/05/03

50

13.0 DC DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

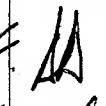
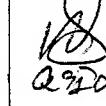
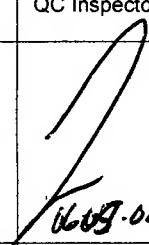
10/05/04 (50)

Inspection Level 21

11/05/04

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA:  Date: 06/05/02
QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|----------|------|---|--|--|-----------------------|--|--|--|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| 06.05.02 | 8 | 13 wemplates need to be re-welded. Hardcast didn't penetrate enough into the wemplate. Lack of heat on the torch. |  06/05/02 | PASS the torch over the strikers, and re-apply hard cast as necessary. AS per QSIW04 | M.F. 06.05. 02. |  06/05/02 |  06/05/02 |  06/05/02 |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

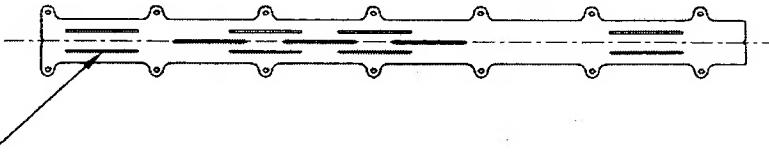
| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

7560 HARDCOAT WELD
4.0 LONG
0.063 TO 0.125 HIGH
(TYP. 11 PLS.)
WELD AFTER BENDING AS
ILLUSTRATED PER DT8308



D2577-1 & D2577-3 WEARSHOE

MAKE FROM D2577-11 AND D2577-13 RESPECTIVELY

FINISH: POWDER COAT GREY (4.3.5.6) PER DART QSI 005 4.3
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

RELEASER
00-04-26 #1



D2941-300
SHWAYDER WEAPADS
(8 PLACES)

SECTION A-A
SCALE 1:5

Technical drawing showing a curved component with the following dimensions:

- Radius: R2.00
- Width: 0.12 (TYP)
- Thickness: 0.10
- Height: 0.13

A note on the right side of the drawing reads:

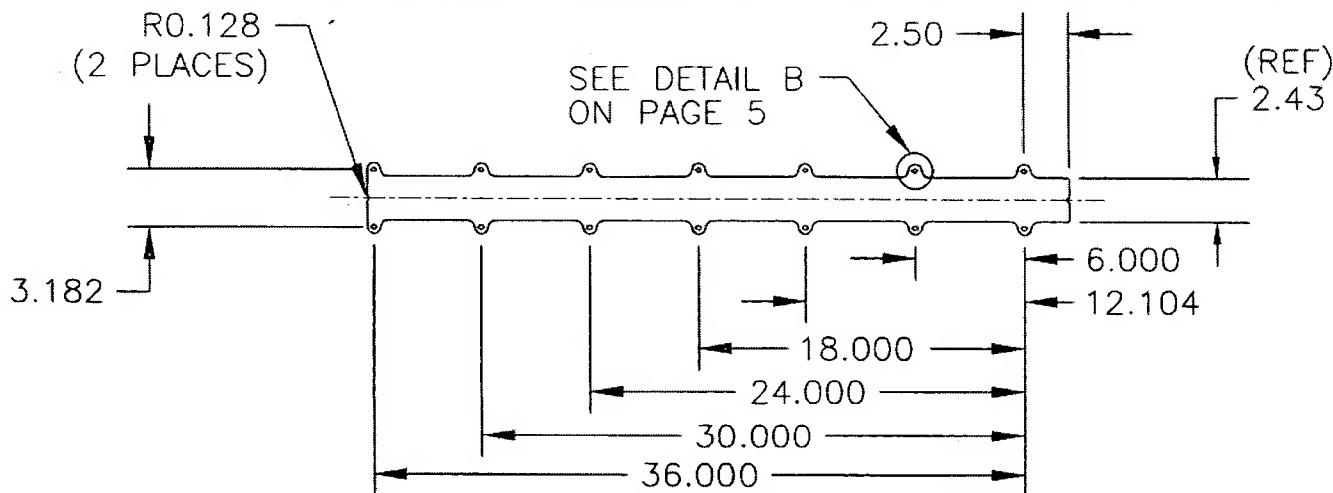
D2941-300 (REF)
REMOVE POWDER
COAT FROM THESE
SURFACES

D2577-23 & D2577-23 WEARSHOE

MAKE FROM D2577-11 AND D2577-13 RESPECTIVELY

FINISH: POWDER COAT GREY (4.3.5.6) PER DART QSI 005 4.3
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

| DRAWN BY | | DART AEROSPACE LTD | |
|----------|----------|--|--------------|
| CHECKED | | HAWKESBURY, ONTARIO, CANADA | |
| DATE | APPROVED | DRAWING NO. | REV. E |
| 00.09.22 | | D2577 | SHEET 1 OF 5 |
| A | 96.09.16 | WEARSHOE | SCALE |
| B | 96.12.04 | ADD HARCOAT WELDS | 1:10 |
| C | 97.05.30 | CHANGE HOLES TO OBROUNDS | |
| D | 98.08.17 | CORRECTED DIMENSIONS ON -1 & -3 | |
| E | 00.09.22 | ADD D2577-101/-11/-13 INCORPORATE DE09176 | |

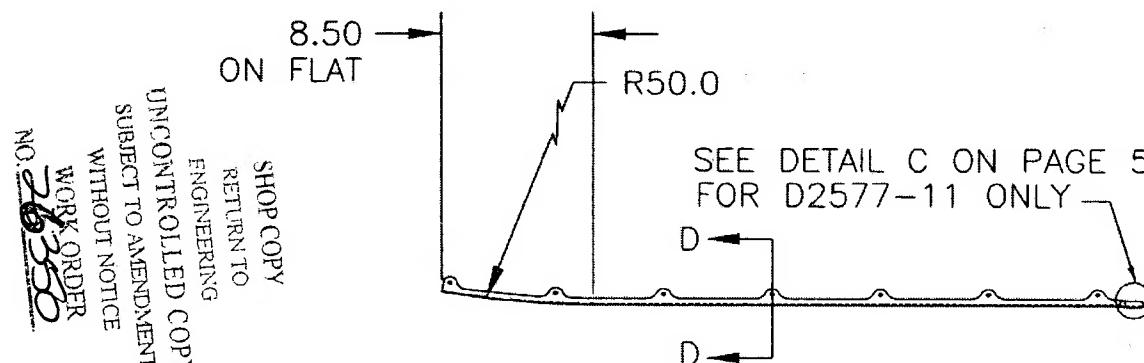


D2577-101 FLAT PATTERN

BREAK ALL SHARP CORNERS 0.010 TO 0.020

MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570
SERIES STEEL 0.063 THICK

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



D2577-11 & D2577-13 LONGITUDINAL BEND

MAKE FROM D2577-101

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

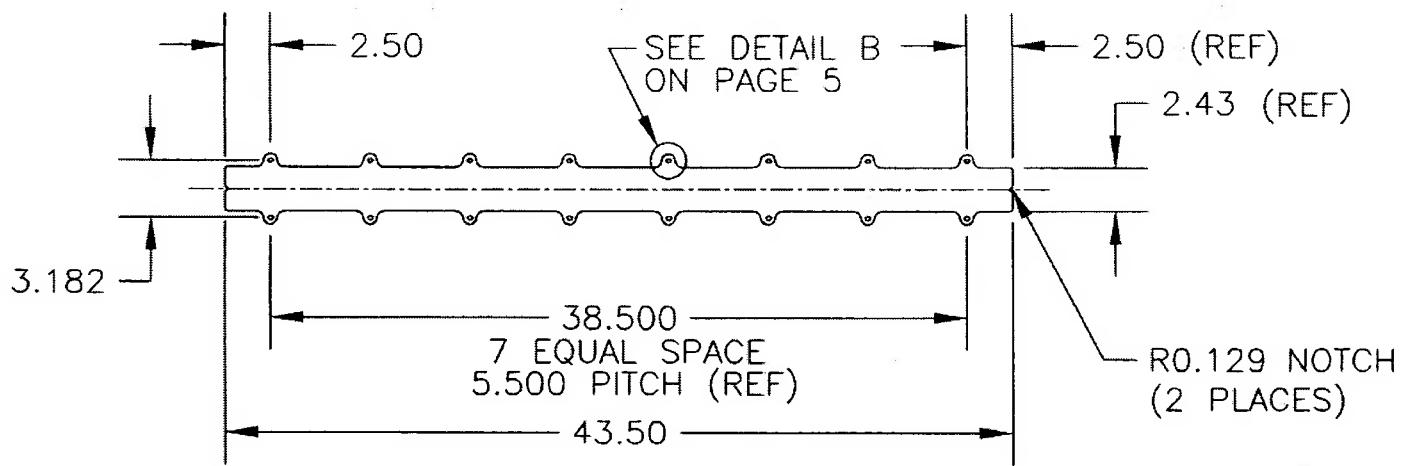
DART

04
COPY
03
15

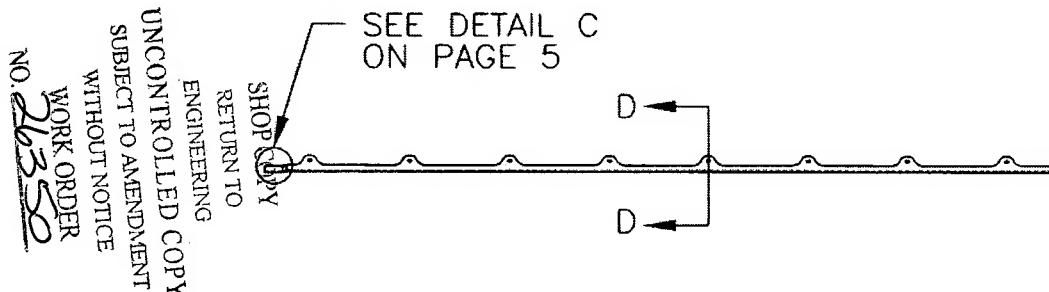
| | | | |
|----------|----------|--------------------|-----------------------------|
| DESIGN | DRAWN BY | DART AEROSPACE LTD | |
| CHECKED | APPROVED | DRAWING NO. | HAWKESBURY, ONTARIO, CANADA |
| | | D2577 | REV. E |
| DATE | | TITLE | SHEET 2 OF 5 |
| 00.09.22 | | WEARSHOE | SCALE |

RELEASED
00-01-26

D2577-5 FLAT PATTERN



D2577-5 LONGITUDINAL BEND



D2577-5 WEARSHOE

BREAK ALL SHARP CORNERS 0.010 TO 0.020

MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570
SERIES STEEL 0.063 THICK

FINISH: POWDER COAT GREY (4.3.5.6) PER DART QSI 005 4.3
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

DART



| DESIGN | DRAWN BY | DART AEROSPACE LTD |
|----------|----------|-----------------------------|
| CHECKED | APPROVED | HAWKESBURY, ONTARIO, CANADA |
| DATE | TITLE | REV. E |
| 00.09.22 | WEARSHOE | D2577 |
| | | SHEET 3 OF 5 |
| | | SCALE 1:10 |

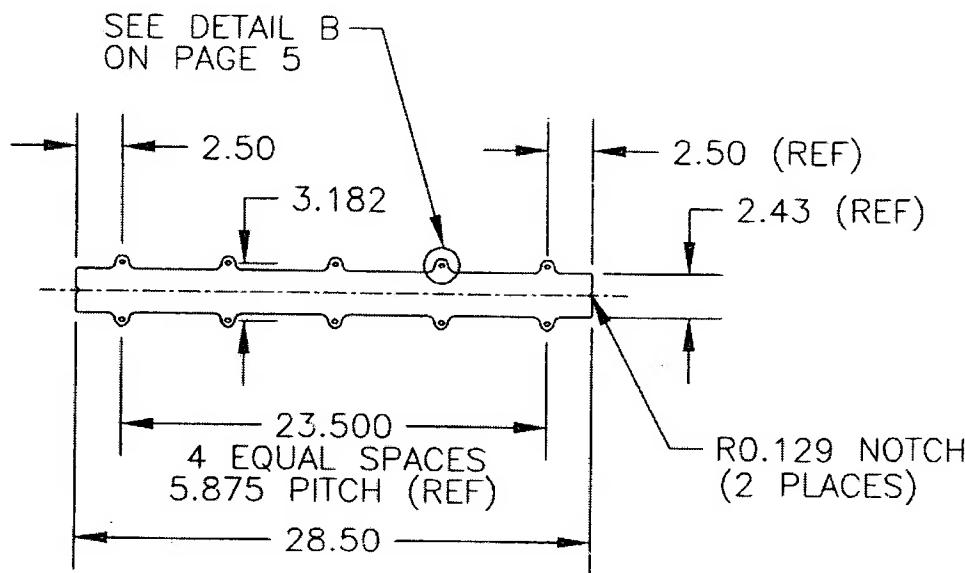
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00.09.26

DART

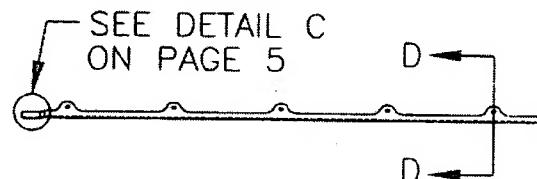
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GEN

| | | |
|----------|----------|-----------------------------|
| DESIGN | DRAWN BY | DART AEROSPACE LTD |
| CHECKED | APPROVED | HAWKESBURY, ONTARIO, CANADA |
| | | DRAWING NO. |
| | | D2577 |
| DATE | TITLE | REV. E |
| 00.09.22 | WEARSHOE | SHEET 4 OF 5 |
| SCALE | | |

D2577-7 FLAT PATTERN



D2577-7 LONGITUDINAL BEND



D2577-7 WEARSHOE

BREAK ALL SHARP CORNERS 0.010 TO 0.020

MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570
SERIES STEEL 0.063 THICK

FINISH: POWDER COAT GREY (4.3.5.6) PER DART QSI 005 4.3
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

RELEASED
00.09.26 47

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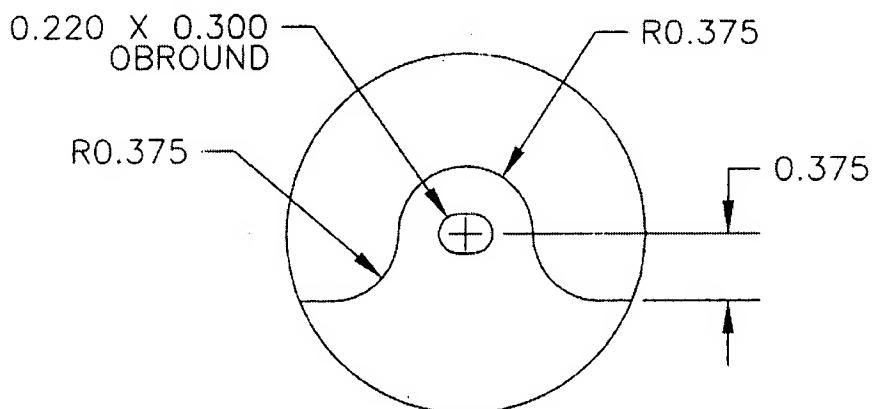


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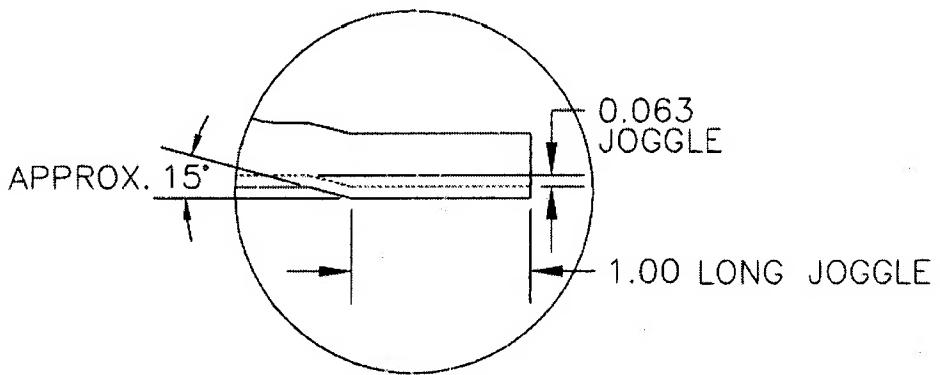
| | | |
|----------|----------|---|
| DESIGN | DRAWN BY | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA |
| CHECKED | APPROVED | DRAWING NO. D2577 |
| DATE | | REV. E SHEET 5 OF 5 SCALE 1:10 |
| 00.09.22 | | TITLE WEARSHOE |

DETAIL B (SCALE 1:1)

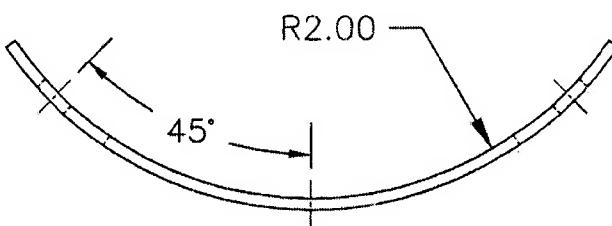
RELEASED
00.09.26



DETAIL C (SCALE 1:1)



SECTION D-D (SCALE 1:1)



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WORK ORDER
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P.O. # 892

TEST CERTIFICATE

| CHARTS | WIRE | CUTTING POSITION | | | | | | | | | | | | CUTTING POSITION | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 8010 | 8011 | 8012 | 8013 | 8014 | 8015 | 8016 | 8017 | 8018 | 8019 | 8020 | 8021 | 8022 | 8023 | 8024 | 8025 | 8026 | 8027 | 8028 | 8029 | 8030 | 8031 | 8032 | 8033 | 8034 | 8035 | 8036 | 8037 | 8038 | 8039 | 8040 | 8041 | 8042 | 8043 | 8044 | 8045 | 8046 | 8047 | 8048 | 8049 | 8050 | 8051 | 8052 | 8053 | 8054 | 8055 | 8056 | 8057 | 8058 | 8059 | 8060 | 8061 | 8062 | 8063 | 8064 | 8065 | 8066 | 8067 | 8068 | 8069 | 80610 | 80611 | 80612 | 80613 | 80614 | 80615 | 80616 | 80617 | 80618 | 80619 | 80620 | 80621 | 80622 | 80623 | 80624 | 80625 | 80626 | 80627 | 80628 | 80629 | 80630 | 80631 | 80632 | 80633 | 80634 | 80635 | 80636 | 80637 | 80638 | 80639 | 80640 | 80641 | 80642 | 80643 | 80644 | 80645 | 80646 | 80647 | 80648 | 80649 | 80650 | 80651 | 80652 | 80653 | 80654 | 80655 | 80656 | 80657 | 80658 | 80659 | 80660 | 80661 | 80662 | 80663 | 80664 | 80665 | 80666 | 80667 | 80668 | 80669 | 806610 | 806611 | 806612 | 806613 | 806614 | 806615 | 806616 | 806617 | 806618 | 806619 | 806620 | 806621 | 806622 | 806623 | 806624 | 806625 | 806626 | 806627 | 806628 | 806629 | 806630 | 806631 | 806632 | 806633 | 806634 | 806635 | 806636 | 806637 | 806638 | 806639 | 806640 | 806641 | 806642 | 806643 | 806644 | 806645 | 806646 | 806647 | 806648 | 806649 | 806650 | 806651 | 806652 | 806653 | 806654 | 806655 | 806656 | 806657 | 806658 | 806659 | 806660 | 806661 | 806662 | 806663 | 806664 | 806665 | 806666 | 806667 | 806668 | 806669 | 8066610 | 8066611 | 8066612 | 8066613 | 8066614 | 8066615 | 8066616 | 8066617 | 8066618 | 8066619 | 8066620 | 8066621 | 8066622 | 8066623 | 8066624 | 8066625 | 8066626 | 8066627 | 8066628 | 8066629 | 8066630 | 8066631 | 8066632 | 8066633 | 8066634 | 8066635 | 8066636 | 8066637 | 8066638 | 8066639 | 8066640 | 8066641 | 8066642 | 8066643 | 8066644 | 8066645 | 8066646 | 8066647 | 8066648 | 8066649 | 8066650 | 8066651 | 8066652 | 8066653 | 8066654 | 8066655 | 8066656 | 8066657 | 8066658 | 8066659 | 8066660 | 8066661 | 8066662 | 8066663 | 8066664 | 8066665 | 8066666 | 8066667 | 8066668 | 8066669 | 80666610 | 80666611 | 80666612 | 80666613 | 80666614 | 80666615 | 80666616 | 80666617 | 80666618 | 80666619 | 80666620 | 80666621 | 80666622 | 80666623 | 80666624 | 80666625 | 80666626 | 80666627 | 80666628 | 80666629 | 80666630 | 80666631 | 80666632 | 80666633 | 80666634 | 80666635 | 80666636 | 80666637 | 80666638 | 80666639 | 80666640 | 80666641 | 80666642 | 80666643 | 80666644 | 80666645 | 80666646 | 80666647 | 80666648 | 80666649 | 80666650 | 80666651 | 80666652 | 80666653 | 80666654 | 80666655 | 80666656 | 80666657 | 80666658 | 80666659 | 80666660 | 80666661 | 80666662 | 80666663 | 80666664 | 80666665 | 80666666 | 80666667 | 80666668 | 80666669 | 806666610 | 806666611 | 806666612 | 806666613 | 806666614 | 806666615 | 806666616 | 806666617 | 806666618 | 806666619 | 806666620 | 806666621 | 806666622 | 806666623 | 806666624 | 806666625 | 806666626 | 806666627 | 806666628 | 806666629 | 806666630 | 806666631 | 806666632 | 806666633 | 806666634 | 806666635 | 806666636 | 806666637 | 806666638 | 806666639 | 806666640 | 806666641 | 806666642 | 806666643 | 806666644 | 806666645 | 806666646 | 806666647 | 806666648 | 806666649 | 806666650 | 806666651 | 806666652 | 806666653 | 806666654 | 806666655 | 806666656 | 806666657 | 806666658 | 806666659 | 806666660 | 806666661 | 806666662 | 806666663 | 806666664 | 806666665 | 806666666 | 806666667 | 806666668 | 806666669 | 8066666610 | 8066666611 | 8066666612 | 8066666613 | 8066666614 | 8066666615 | 8066666616 | 8066666617 | 8066666618 | 8066666619 | 8066666620 | 8066666621 | 8066666622 | 8066666623 | 8066666624 | 8066666625 | 8066666626 | 8066666627 | 8066666628 | 8066666629 | 8066666630 | 8066666631 | 8066666632 | 8066666633 | 8066666634 | 8066666635 | 8066666636 | 8066666637 | 8066666638 | 8066666639 | 8066666640 | 8066666641 | 8066666642 | 8066666643 | 806666 |



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TEST CERTIFICATE

Ref: 537022917

| | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|-------------|------------------------------|----|----|----|----|----|----|----|-----|----|----|------------|---|------|----------------------|-------|------|----------------|----------------|-----|-------------|--|--|
| CUSTOMER | Willems | P 5050501002 | | | | | | | | | | | | SPECIFICATION | | ASTM A193W C3 Type A | | | | CERTIFICATE NO | | 20115636 | | |
| CUSTOMER ORN | 90-1204-712 | | | | | | | | | | | | PRODUCT | CRA WIDE COIL | | | | PAGE | 1 of 1 | | | | | |
| WILL ORN | 40000 | | | | | | | | | | | | DIMENSIONS | 0.63" x 48" x Coil | | | | DATE | 05 August 2008 | | | | | |
| PACK NUMBER | HEAT NO | CHEMICAL COMPOSITION PERCENT | | | | | | | | | | | | MECHANICAL TESTS (TEST SPECIFICATION - ASTMA390 | | | | | | | | 1 | | |
| | | C | Si | Mn | P | S | Cr | Ni | Mo | V | Nb | Ti | Al | E. NO | CEI | SEND | YIELD | T.S. | ELONG | HARDNESS | () | LENGTH (mm) | | |
| | | 0.00 | | | | | | | | | | | | 20000 | x100 | 100° | | | | | | | | |
| RP-46017-00 | 779663 | 6 | TR | 20 | 7 | 17 | 15 | 13 | 14 | 2.1 | 6 | 3 | 3 | | | Good | | | | 45 | | 2018 | | |
| RP-46018-00 | 779663 | 6 | TR | 20 | 7 | 17 | 15 | 13 | 14 | 2.1 | 3 | 1 | 2 | | | Good | | | | 45 | | 2064 | | |
| RP-46019-00 | 779673 | 6 | TR | 20 | 14 | 16 | 11 | 21 | 13 | 1 | 3 | 4 | 3 | | | Good | | | | 45 | | 2418 | | |
| RP-46020-00 | 779673 | 6 | TR | 20 | 14 | 16 | 11 | 23 | 13 | 2 | 3 | 3 | 3 | | | Good | | | | 49 | | 2125 | | |
| RP-46021-00 | 779674 | 6 | TR | 21 | 13 | 17 | 13 | 22 | 17 | 2 | 3 | 3 | 3 | | | Good | | | | 50 | | 1923 | | |
| RP-46021-00 | 779674 | 6 | TR | 21 | 13 | 17 | 13 | 23 | 17 | 2 | 3 | 3 | 3 | | | Good | | | | 58 | | 1975 | | |

| | | | | | |
|---|--|--|--|--|-----------------------|
| YIELD (A)=0.2% PROOF STRESS (MPA) (UPLOWER YIELD STRESS) | GAUGE LENGTH (GL) (A)=200mm (B)=50mm | PLASTIC STRAIN RATIO (G) (A)=0 (B)=0.05-0.15 | IMPACT TEST (A)=10mm x 50mm (B)=7.5mm x 10mm | CARBON EQUIVALENT VALUE (CE) (A)=C+Mn (B)=C+Mn+0.25(Ni+Cr+Mo)/15 | (C)=CHLORIDES (D)= |
|---|--|--|--|--|-----------------------|

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED
WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED *Janish Misra*
DEWETALLURGIE